Revised 11/05

CORRES. CONTROL
INCOMING LTR NO.
020538 RF05
DUE DATE
ACTION

RECEIVED
2005 NOV 17 P 3:19
CORRESPONDENCE CONTROL

Department of Energy

ROCKY FLATS PROJECT OFFICE
12101 AIRPORT WAY, UNIT A
BROOMFIELD, COLORADO 80021-2583

NOV 09 2005

05-DOE-00631

DIST.	LTR	ENC
BERARDINI, J.H.	X	X
BOGNAR, E.S.	X	X
BROOKS, L.	X	X
CROCKETT, G. A.	X	X
DECK, C. A.	X	X
DEGENHART, K. R.	X	X
FERRERA, D. W.	X	X
GIACOMINI, J. J.		
GILPIN, H.		
LINDSAY, D. C.	X	X
NESTA, S.	X	X
SHELTON, D. C.	X	X
TUOR, N. R.	X	X
WALSTROM, J.	X	X
ZAHM, C.	X	X

COR. CONTROL	X	X
ADMIN. RECORD	X	X

Reviewed for Addressee
Corres. Control RFP
11/17/05 dtg
Date By
Ref. Ltr. # 0538

DOE ORDER #
NONE

Mr. Carl Spreng
Rocky Flats Cleanup Agreement Project Coordinator
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Mr. Mark Aguilar
Rocky Flats Cleanup Agreement Team Leader
U.S. Environmental Protection Agency, Region VIII
999 18th Street, Suite 500
Denver, Colorado 80202-2466

Dear Mr. Spreng and Mr. Aguilar:

Enclosed for your review is the 2005 Rocky Flats Cleanup Agreement (RFCA) Annual Review Report performed in accordance with RFCA paragraph 5.

If you have any questions or comments, please contact me at (303) 966-6246 or Richard Schassburger at (303) 966-4888.

Sincerely,

John J. Rampe, Director
RFPO Closure Project Management

Enclosure

cc w/Encl:
F. Lockhart, OOM, RFPO
J. Rampe, RFCPM, RFPO
R. Schassburger, HQCPM, RFPO
D. Shelton, K-H
L. Brooks, K-H

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ADMIN RECORD
SW-A-005174

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2005 Rocky Flats Cleanup Agreement Annual Review

The Rocky Flats Cleanup Agreement (RFCA) was signed by the Department of Energy (DOE), the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) on July 19, 1996. (DOE, EPA, and CDPHE are collectively referred to as the "RFCA Parties.") The RFCA Parties committed to review the Agreement to determine if any amendments are necessary. RFCA paragraph 5 states in part:

The Parties shall conduct an annual review of all applicable new and revised statutes and regulations and written policy and guidance to determine if an amendment pursuant to Part 19 (Amendment of Agreement) is necessary.

In addition to the annual review prescribed in RFCA paragraph 5, the agencies committed to conducting an internal annual review of the radionuclide soil action levels (RSALs). Questions to be addressed on an annual basis include:

Is there new scientific information available that would impact the interim action levels?

Has a national soil action level been promulgated within the year? If yes, the parties commit to revisit the Rocky Flats interim action levels.

How were the interim action levels applied to the site over the course of the year?

Have the remedies been effective?

(See, Responsiveness Summary for Soil Action Levels released on November 6, 1996.)

The RFCA Parties have completed their 2005 regulatory/RSAL annual review for the period July 1, 2004 through June 30, 2005. Based on this review, no amendments to RFCA were identified.

Applicable or Relevant and Appropriate Requirements Technical Memorandum

RFCA paragraph 83 states:

Following implementation of all planned accelerated actions, CDPHE and EPA shall evaluate the Site conditions and render final remedial/corrective action decisions for each operable unit.

The evaluation of Site conditions was completed and documented in a draft Resource Conservation and Recovery Act Facility Investigation-Remedial Investigation/Corrective Measures Study-Feasibility Study Report (Draft RI/FS Report) for the Rocky Flats Environmental Technology Site (RFETS). The Draft RI/FS Report presents the findings of the nature and extent of contamination, contaminant fate and transport, the comprehensive risk assessment results, the final remedial action objectives, and supports the development and detailed analysis of remedial alternatives after the completion of the planned accelerated actions. As part of this process, the RFCA Parties prepared an Applicable or Relevant and Appropriate Requirements (ARARs) Technical Memorandum that lists the identified ARARs for RFETS. The ARARs Technical Memorandum was approved by the RFCA Parties as appropriate for use in developing the Draft RI/FS Report for RFETS on July 13, 2005 (Enclosure 1). The RFCA Parties agreed that the development of the ARARs Technical Memorandum fulfilled the RFCA Paragraph 5 requirement and addressed radionuclide soil action level questions 1 and 2. The draft RI/FS Report addressed radionuclide soil action level questions 3 and 4.

RFCA Attachment 12, RFCA Documents Index

RFCA Attachment 12, RFCA Documents Index, is updated quarterly in the RFCA Quarterly Implementation Status Reports. Enclosure 2 is the latest compilation of RFCA Attachment 12.

Colorado Department
of Public Health
and Environment

July 13, 2005

Mr. John J. Rampe
Director, Closure Project Management
Department of Energy
Rocky Flats Project Office
12101 Airport Way, Unit A
Broomfield, CO 80021-2583

Dear Mr. Rampe:

The Colorado Department of Public Health and Environment and the Environmental Protection Agency hereby approve the final Applicable or Relevant and Appropriate Requirements (ARARs) Technical Memorandum dated June 21, 2005, in accordance with Task 1 of the CERCLA Remedial Investigation/Feasibility Study (RI/FS) Work Plan. The agencies consider the Technical Memorandum to be appropriate for use in developing the draft RI/FS for the Site.

Sincerely,

Steven H. Gunderson
CDPHE

Mark Aguilar
EPA

cc: Dan Miller, AGO
Scott Surovchak, DOE/LM
Lorraine Ross, EPA
Dave Shelton, KH
Laura Brooks, KH
Carol Dec, KH
Mark Sattelberg, USFWS
Administrative Record

Department of Energy

ROCKY FLATS PROJECT OFFICE
12101 AIRPORT WAY, UNIT A
BROOMFIELD, COLORADO 80021-2583

JUL 0 7 2005

05-DOE-00421

Mr. Steve Gunderson
RFCA Project Coordinator
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South, OE-B2
Denver, CO 80246-1530

Mi. Mark Aguilar
Rocky Hats Team Lead
United States Environmental Protection Agency, Region VIII
999 18* Street, Suite 500
Denver, CO 80202-2466

Dear Mr. Gunderson and Mr. Aguilar:

In accordance with Task 1 of the CERCLA Remedial Investigation/Feasibility Study (RI/FS) Report Work Plan, we are transmitting for your approval the final Technical Memorandum identifying the Applicable or Relevant and Appropriate Requirements for Site closure, dated June 21,2005.

Sincerely,

John J. Rampe, Director
RFPO Closure Project Manager

ROCKY FLATS ENVIRONMENTAL
TECHNOLOGY SITE

Applicable or Relevant
And Appropriate Requirements
Technical Memorandum

Rocky Flats Environmental Technology Site
10808 Highway 93
Golden, CO 80403-8200

June 21, 2005

TABLE OF CONTENTS

ACRONYMS

A	Action-specific ARAR
ALARA	As Low As Reasonable Achievable
ARARs	Applicable or Relevant and Appropriate Requirements
C	Chemical-specific ARAR
CAA	Clean Air Act
CAD	Corrective Action Decision
CAQCC	Colorado Air Quality Control Commission
CCR	Colorado Code of Regulations
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CHWA	Colorado Hazardous Waste Act
CRS	Colorado Revised Statute
CWA	Clean Water Act
DOE	U.S. Department of Energy
DPM	Disintegration per minute
EDE	Effective dose equivalent
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
FWS	U.S. Fish and Wildlife Service
IHSS	Individual Hazardous Substance Site
L	Location-specific ARAR
MCL	Maximum Concentration Limit
mrem	millirem
NPDES	National Pollutant Discharge Elimination System
PCB	Polychlorinated Biphenyls
OU	Operable Unit
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RH	Radiation Health
RI	Remedial Investigation
ROD	Record Of Decision
SWMU	Solid Waste Management Unit
TBC	To-Be-Considered
TM	Technical Memorandum
TSCA	Toxic Substances Control Act
USC	United States Code
VOC	Volatile Organic Compound

1 INTRODUCTION

This Technical Memorandum (TM) identifies chemical-, location- and action-specific applicable or relevant and appropriate requirements (ARARs) and has been prepared pursuant to Task 1 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Remedial Investigations/Feasibility Study (RI/FS) Report Work Plan (DOE 2002) and the Rocky Flats Cleanup Agreement (RFCA). Upon approval of this TM by the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE), the list of ARARs in Table X will be used in developing the draft RI/FS Report for the Rocky Flats Environmental Technology Site (RFETS).

The degree of cleanup required by CERCLA section 121(d) for any contamination remaining on-site and the final remedy selection requirements of the National Contingency Plan for on-site remedial actions, 40 CFR 300.430(f), includes attainment of all ARARs identified in the final Record of Decision (ROD) unless a waiver is granted for particular ARARs.[1] The RI gathers information about contaminants at RFETS in order to develop and evaluate effective remedial alternatives in the FS. The FS evaluation considers and provides an analysis of whether each remedial alternative is expected to meet the ARARs related to that alternative. Final ARARs to be met by the remedial alternative proposed for the final remedy, and any proposed ARARs waivers will be identified in the Proposed Plan. On-site remedial actions selected in the Corrective Action Decision (CAD)/ROD must attain ARARs that are identified at the time the CAD/ROD is signed.

2 BACKGROUND

2.1 Definition of ARARs

Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental, or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site. *Relevant and Appropriate* requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not applicable to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those State standards that are identified in a timely manner and are more stringent than Federal requirements may be relevant and appropriate.

In addition to ARARs, the lead and support agencies may, when appropriate, identify other non-promulgated advisories, criteria, guidance documents, or proposed regulations that are to-be-considered (TBCs) to supplement an ARAR provision for a particular release. TBCs are not legally binding, and do not have the status of potential ARARs. However, TBCs are used in determining the necessary level of cleanup for the protection of human health and the environment.

ARARs are identified as chemical-, location-, or action-specific. Chemical-specific requirements are usually health- or risk-based numerical values or are methodologies which, when applied to site-specific conditions, result in the establishment of numerical values. These values establish the acceptable amount or concentration of a chemical that may be found in or discharged to the ambient environment.

Location-specific requirements are restrictions placed on the concentration of hazardous substances solely because they occur in special locations. Typical location restrictions include areas with sensitive or unique

[1] See 40 CFR 300.430(f)(1)(ii)(C) regarding the grounds for ARAR waivers.

characteristics such as wetlands, areas of historical significance, or areas situated in locations requiring special precautions.

Action-specific requirements are usually technology- or activity-based requirements or limitations on actions taken with respect to management of the remediation waste or closure of the facility. These requirements are triggered by the particular remedial activities that are selected to accomplish a remedy.

2.2 Application to RFETS and RFCA

Known or suspected areas of soil contamination and/or sources of ground water contamination are identified in RFCA Attachment 3, RFETS *Individual Hazardous Substance Sites List.* The list includes Individual Hazardous Substance Sites (IHSSs), Potential Areas of Concern or Under Building Contamination areas. These areas are collectively referred to in this TM as IHSSs. RFCA adopted an accelerated action approach to RFETS cleanup, as described in RFCA paragraph 79:

> To expedite remedial work and maximize early risk reduction at the Site, the Parties intend to make extensive use of accelerated actions to remove, stabilize, and/or contain Individual Hazardous Substance Sites (IHSSs).

To assist project managers in identifying ARARs for specific RFETS accelerated actions, the RFCA parties developed a Master List of Potential ARARs and included this list in the *Implementation Guidance Document* (RFCA Appendix 3). Accelerated action decision documents include ARARs that are selected from the Master List for the particular action. The RFCA Parties conduct an annual review of laws, regulations, policy and guidance pursuant to RFCA paragraph 5 and based on that review the Master List is updated, as necessary. The Master List will continue to exist in its latest form in RFCA Appendix 3 and will be used for developing accelerated action decision documents. An objective of each accelerated action is to attain ARARs identified in the decision document to the extent practicable.

Pursuant to RFCA paragraph 83:

> Following implementation of all planned accelerated actions, CDPHE and EPA shall evaluate the Site conditions and render final remedial/corrective action decisions for each OU [Operable Unit]. Notwithstanding the emphasis on accelerated actions and IHSS based approach, the Parties recognize that the final remedial/corrective action decisions may require some additional work as specified in the CAD/ROD to ensure an adequate remedy.

Thus, the ARARs for the final remedy are based on the conditions of the site after the implementation of all planned accelerated actions, and will consider the need to conduct additional work to achieve the selected final remedy. The conditions of the site will be documented in the Summary Reports for the Nature and Extent of Air, Ground Water, Surface Water and Sediment, and Soil Contamination and the Comprehensive Risk Assessment required under the RI/FS Report Work Plan.

The ARARs identified in Table X of this TM are based on a consideration of the RFCA Appendix 3 Master List of Potential ARARs and on the site conditions reasonably anticipated to exist after planned accelerated actions have been implemented. In particular, the following were considered:

- the proposed in-place cover and stabilization of the Present and Original Landfills to meet containment remedy criteria specified in the IM/IRAs for the Landfills in a manner consistent with achieving landfill final closure;

- cleanup of soils to below the Soil Action Levels in Table 3 of the *Action Levels and Standards Framework for Surface Water, Ground Water and Soils*, RFCA Attachment 5 to the subsurface depths specified in Sections 4 and 5 of the ALF;
- the reasonably maximally exposed anticipated future land user of RFETS is the wildlife refuge worker;
- closure of underground petroleum storage tanks will be completed and approved in accordance with the criteria in RFCA Attachment 13, *Underground Storage Tank Closure Letter Agreement*; and
- land use restrictions in and around the Industrial Area and in the wind blown area in the eastern Buffer Zone (DOE et al., 2004).

The list of ARARs in Table X of this TM will be used in refining the remedial action objectives in the draft RI/FS Report. Final remediation goals, including final ARARs are determined when the final remedy is selected. The ARARs identified for the final remedy must be met, unless waived. The RFCA Parties may propose changes to the ARARs identified in Table X based upon, final site conditions, the draft RI/FS report, the Proposed Plan and the draft CAD/ROD. In addition, new or revised federal or state environmental statutes and promulgated rules or regulations could become ARARs.

3 REFERENCES

DOE, 2002, Comprehensive Environmental Response, Compensation and Liability Act Remedial Investigation/Feasibility Study (RI/FS) Report Work Plan, Golden, Colorado, March 11, 2002.

DOE et al. 2004, Memorandum from RFCA Project Coordinators to Comprehensive Risk Assessment Work Group, 04-DOE-00176, March 9.

TABLE X

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

CLEAN AIR ACT (CAA) [42 USC 7401 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS	**40 CFR 61**		
• National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities	40 CFR 61, Subpart H		CAQCC Reg. No. 8 [5 CCR 1001-10] incorporates 40 CFR 61, subpart H without change.
- Standard	61.92	C/L	Emissions of radionuclides to the ambient air from Department of Energy facilities shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent (EDE) of 10 mrem/yr.
- Emission Monitoring and Test Procedures	61.93	C/A	Radionuclide emissions shall be determined and EDE values to members of the public calculated using EPA approved sampling procedures, computer models CAP–88 or AIRDOS–PC, or other procedures for which EPA has granted prior approval. Potential sources of radionuclide emissions will be evaluated in the FS based on results from established perimeter and onsite sampler networks. Periodic evaluation and monitoring (if required because of the source term) will be developed and implemented pursuant to the final remedy decision in the CAD/ROD.
- Compliance and Reporting	61.94	C/L/ A	Compliance with the standard shall be determined by calculating the highest EDE to any member of the public at any offsite point where there is a residence, school, business or office.

CLEAN AIR ACT (CAA) [42 USC 7401 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
• National Emission Standard for Asbestos	40 CFR 61, Subpart M		
- Cover	61.151(a)(3)	A/L	The Present Landfill, IHSS 114, may contain regulated asbestos-containing waste material. Any asbestos-containing waste material was covered with at least 60 centimeters (2 feet) of compacted nonasbestos-containing material. The cover will be maintained to prevent exposure of the asbestos-containing waste material. The specific maintenance plan will be documented as part of the final remedy decision and other enforceable document. Subpart M is only an ARAR for the Present Landfill, IHSS 114.
- Signage	61.151(b)	A/L	Since there is no natural barrier to adequately deter access by the general public, installation and maintenance of warning signs and fencing will be complied with under 40 CFR 61.151(a)(3).
- Notification to Administrator in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material	61.151(d)	A	Requirements for notification will be included as part of the final remedy decision in the CAD/ROD and other enforceable document.
- Notation on deed	61.151(e)	A	The environmental covenant will include a notation that the Present Landfill, IHSS 114, may have been used for the disposal of asbestos-containing waste material.

FEDERAL WATER POLLUTION CONTROL ACT (aka Clean Water Act [CWA])[33USC 1251 et.seq.]			
Requirement	**Citation**	**Type**	**Comment**
COLORADO BASIC STANDARDS AND METHODOLOGIES FOR SURFACE WATER	5 CCR 1002-31		
• Process for Assigning Standards and Granting, Extending or Removing Temporary Modifications	31.7	C/L	Assessment and monitoring of Surface Water Quality is described in the Surface Water Remedial Action. Remediation alternatives that would require changes to standards, temporary modifications and the use of mixing zones may be evaluated in the FS. Monitoring requirements will be developed and implemented pursuant to the final remedy decision in the CAD/ROD.
• Mixing Zones	31.10		
• Basic Standards Applicable to Surface Waters of the State	31.11		
CLASSIFICATION AND NUMERIC STANDARDS SOUTH PLATTE RIVER BASIN, LARAMIE RIVER BASIN, REPUBLICAN RIVER BASIN, SMOKY HILL RIVER BASIN	5 CCR 1002-38		
• Classification Tables	38.6	C/L	Lists use classification and parameters for the segments 4a, 4b and 5 of Big Dry Creek (Woman and Walnut Creeks on RFETS).
COLORADO BASIC STANDARDS FOR GROUND WATER	5 CCR 1002-41	C/L	
• Point of Compliance	41.6	C/L	The point of compliance for assessment and monitoring of Ground Water Quality are the point of compliance wells described in the Ground Water and Soils Remedial Action Objectives.
SITE SPECIFIC WATER QUALITY CLASSIFICATIONS AND STANDARDS FOR GROUND WATER	5 CCR 1002-42		
• Rocky Flats Area, Jefferson And Boulder Counties	42.7(1)	C/L	The use classification for groundwater at RFETS is surface water protection. This classification recognizes that ground water is not current or potential source of drinking water recognizing that controls to prohibit and prevent use of contaminated ground water are and will be in place at RFETS.

FEDERAL WATER POLLUTION CONTROL ACT (aka Clean Water Act [CWA])[33USC 1251 et.seq.]			
Requirement	**Citation**	**Type**	**Comment**
PERMITS FOR DREDGED OR FILL MATERIAL; DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES	33 USC 1344; 33 CFR 323		
• Definitions • Discharges Requiring Permits	33 CFR 323.2 33 CFR 323.3	A/L	On-site remedial actions do not require permits, but remedies requiring discharge of dredge or fill material into waters of the United States (types of activities are defined in the regulation) must meet substantive requirements of any Nationwide or Regional Permit or specific NPDES permit that may otherwise be required. Requirements for any remedial alternatives that require discharge of dredge or fill material will be evaluated in the FS. Final requirements will be implemented pursuant to the final remedy decision in the CAD/ROD.
DOE COMPLIANCE WITH FLOODPLAIN/WETLANDS ENVIRONMENTAL REVIEW REQUIREMENTS	10 CFR 1022		
• Floodplain/Wetlands Determination • Floodplain/Wetlands Assessment • Applicant Responsibilities	10 CFR 1022.11 10 CFR 1022.12 10 CFR 1022.13	A/L	
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)	**33 USC 1342; 40 CFR 122**		
• Storm Water permit for Construction Activities	40 CFR 122.26	A/L	On-site remedial actions do not require permits, but remedies that discharge pollutants from point sources or that involve storm water discharges must meet substantive requirements for a site specific or general NPDES permit. Requirements for any remedial alternatives that require discharge of pollutants will be evaluated in the FS. Final requirements will be implemented pursuant to the final remedy decision in the CAD/ROD.
• General Permits	40 CFR 122.28	A/L	

A - Action-Specific ARAR; C - Chemical-Specific ARAR; L - Location-Specific ARAR; TBC - To Be Considered

FEDERAL WATER POLLUTION CONTROL ACT (aka Clean Water Act [CWA])[33USC 1251 et.seq.]			
Requirement	**Citation**	**Type**	**Comment**
• Resource Conservation and Recovery Act (RCRA) Subtitle C Hazardous Waste Landfill Effluent Limitations	40 CFR 445.11	A/C	Parameters that will be monitored at the Present Landfill (IHSS 114) seep treatment system discharge are VOCs and metals. The effluent limits are the surface water standards applicable for the receiving water as listed in RFCA Attachment 5, Table 1.

NATURAL RESOURCE AND WILDLIFE PROTECTION LAWS			
Requirement	**Citation**	**Type**	**Comment**
ENDANGERED SPECIES ACT	**16 USC 1531 et seq.**		
• Early consultation	50 CFR 402.11	A/L	Identify and minimize early in the planning stage of an action, any potential conflicts between the action and federally listed proposed species and designated and proposed critical habitat.
• Biological assessment ➢ Purpose ➢ Preparation Requirements ➢ Request for Information ➢ Director's Response ➢ No Listed Species or Critical Habitat Present ➢ Listed Species or Critical Habitat Present ➢ Verification of Current Accuracy of Species List ➢ Contents ➢ Identical/Similar to Previous Action ➢ Permit Requirements ➢ Completion Time ➢ Submission of Biological Assessment ➢ Use of Biological Assessment	50 CFR 402.12	A/L	DOE will evaluate in the FS the potential effects of the action on listed and proposed species and designated and proposed critical habitat and determine whether any such species or habitat are likely to be adversely affected in determining whether formal consultation or a conference is necessary.
• Interagency cooperation	50 CFR 402		
• Informal Consultation	50 CFR 402.13	A/L	Optional process that includes all discussions, correspondence, etc. between the U.S, Fish and Fish and Wildlife Service (USFWS) and the DOE to assist in determining whether formal consultation or a conference is required. If, during this step, it is determined by the DOE with the written concurrence of the USFWS that the action is not likely to adversely affect listed species or critical habitat, the consultation process is terminated and no further action is necessary. Otherwise, formal consultation shall occur.
• Formal Consultation	50 CFR 402.14	A/L	Results of informal or formal consultation shall be evaluated in the FS.

A - Action-Specific ARAR; C - Chemical-Specific ARAR; L - Location-Specific ARAR; TBC - To Be Considered

NATURAL RESOURCE AND WILDLIFE PROTECTION LAWS			
Requirement	**Citation**	**Type**	**Comment**
MIGRATORY BIRD TREATY	16 USC 701-715		
• Taking, possession, transportation, sale, purchase, barter, exportation, and importation of wildlife and plants	50 CFR 10	A/L	Remedial alternatives will be evaluated in the FS regarding whether they may be planned and implemented to prevent or minimize contact with listed birds and nests.
COLORADO WILDLIFE STATUTES	**CRS 33-1-101 to 33-6-209**		
• Compliance with the Colorado Wildlife statutes, including Non-game, Endangered, or Threatened Species Conservation Act and the state statutes regarding illegal possession	CRS 33-1-101 CRS 33-1-102(34) and (43) CRS 33-2-104 CRS 33-2-105 CRS 33-6-109	A/L	Remedial alternatives will be evaluated in the FS regarding whether they may result in any prohibited taking or possession of any species or subspecies of wildlife appearing on the list of wildlife indigenous to the State of Colorado determined to be endangered within the State. The state interprets "taking" as including contamination-induced deaths of individual members of a species. The assessment for the Preble's Meadow Jumping Mouse in the Comprehensive Risk Assessment will address the potential for individual mice to be adversely affected by contact with ecological contaminants of potential concern. For other species with stable or healthy populations, the assessment will focus on population-level effects where some individuals may suffer adverse effects, but the effects are not ecologically meaningful because the overall site population is not significantly affected.
ARCHEOLOGICAL AND HISTORICAL PRESERVATION ACT	16 USC 469a-1		
• Notification and Request for Preservation of Data, Survey of Sites; Preservation of Data; Compensation	16 USC 469a-1(a) 16 USC 469a-1(b)	L	Differs from National Historic Preservation Act in that it encompasses a broader scope of resources than those listed on the National Register and requires only preservation of the data (including analysis and publication).

NATURAL RESOURCE AND WILDLIFE PROTECTION LAWS			
Requirement	**Citation**	**Type**	**Comment**
FEDERAL NOXIOUS WEED ACT	Pub. L. 93-629; 7 USC 2814 *et seq.*		
• Management of undesirable plants on federal lands • Duties of Federal Agencies	7 USC 2814 (a)(3), (a)(4), (c)(1), (c)(2)	A	Remedial alternatives will be evaluated in the FS regarding whether they may result in any undesirable plant species at RFETS and control measures needed for undesirable plant species targeted under any State agency cooperative agreements.
COLORADO NOXIOUS WEED ACT	CRS 35-5.5-101 *et seq.*		
• Duty to manage noxious weeds	Section 104	L/A	Remedial alternatives will be evaluated in the FS regarding whether they may need to use integrated methods to manage noxious weeds if the same are likely to be materially damaging to DOE property or the land of neighboring landowners.
• Cooperation with federal and state agencies	Section 111	L/A	The local governing bodies in Colorado are authorized to enter into cooperative agreements with federal and state agencies for the integrated management of noxious weeds within their respective territorial jurisdictions. The Jefferson County Noxious Weed Management Plan establishes the countywide strategy for the management, control, and eradication of noxious weeds in the County.
NATIONAL WILDLIFE REFUGE SYSTEM ADMINISTRATION ACT	16 USC 668dd(c)	L	Prohibits interference with natural growth or wildlife, on National Wildlife Refuges administered by the USFWS, unless permitted.

ATOMIC ENERGY ACT, 42 U.S.C. 2011, et seq.			
Requirement	**Citation**	**Type**	**Comment**
RADIATION PROTECTION STANDARDS AND DECOMMISSIONING US NUCLEAR REGULATORY COMMISSION LICENSED FACILITIES	6 CCR 1007-1 10 CFR		Colorado Division of Laboratory and Radiation Services regulations, 6 CCR 1007-1 (Radiation Health [RH]), are identified as ARARs. Comparable federal regulations are shown in parenthesis for reference.
• Decommissioning Plan Contents – must include a description of methods used to ensure protection of workers and the environment against radiation hazards during decommissioning.	RH 3.16.4.3(3) (70.38(g)(4)(iii))	A	10 CFR 70 relates to special nuclear material. Identical provisions for source material and byproduct material are found at 10 CFR Parts 40 and 30 respectively, but are omitted here for simplicity. ARAR is for environmental protection, not worker health and safety aspects of rule, which are not ARARs.
• Decommissioning Plan Contents – must include a description of the planned final radiation survey.	RH 3.16.4.3(4) (70.38(g)(4)(iv))	A/L	The requirements for a final radiation survey will be met through implementation of the Sampling and Analysis Plans and the Integrated Monitoring Plan.
• Decommissioning Plan Contents – must include a description of the intended final condition of the site upon decommissioning.	RH 3.16.4.3(6) (70.38(g)(4)(i))	A/L	The description will be provided for remedial alternatives in the FS.
• Decommissioning Under Restricted Conditions –must demonstrate that reductions in residual radioactivity necessary to comply with the provisions of RH 4.61.2 (unrestricted use) would result in net public or environmental harm or were not being made because residual levels of contamination associated with restricted conditions are As Low As Reasonable Achievable (ALARA), taking into account consideration of any detriments expected to potentially result from decontamination and waste disposal.	RH 3.16.4.3(7)(a) and 4.61.3.1 (20.1403(a))	A/L	The evaluation will be provided for remedial alternatives in the FS.
• Decommissioning Plan Contents for Restricted Conditions –Plan must specify intent to decommission by restricting use of the site and describe legally enforceable institutional controls and other mechanisms that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem (0.25 mSv) per year.	RH 3.16.4.3(7)(b) RH 3.16.4.6 (20.1403(b) and (d))	A/L	The description will be provided in the FS, and specific plans will be developed and implemented pursuant to the final remedy decision in the CAD/ROD. 10 CFR 20.1403(c) specifies requirements for financial assurance to allow independent third party, including a government custodian of the site, to carry out control and maintenance of the site. (RH 3.16.4.6 specifies a long-term care warranty under RH 3.9.5.10 that may be

ATOMIC ENERGY ACT, 42 U.S.C. 2011, et seq.			
Requirement	**Citation**	**Type**	**Comment**
			required if restricted conditions are used). The RFCA Parties agree that the FS need not evaluate a long term care warranty at this time.
• Decommissioning Under Restricted Conditions –Residual radioactivity at the site has been reduced so that if the institutional controls were no longer in effect, there is reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group is as low as reasonably achievable and would not exceed either-- (1) 100 mrem (1 mSv) per year; or (2) 500 mrem (5 mSv) per year, provided: (i) further reductions in residual radioactivity necessary to comply with the 100 mrem/y (1 mSv/y) value is not technically achievable, would be prohibitively expensive, or would result in net public or environmental harm; (ii) provisions for durable, legally enforceable institutional controls which provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 mrem/y (0.25 mSv); [see 4.61.3.2] (iii) periodic rechecks of the site no less frequently than every 5 years to assure that the institutional controls remain in place as necessary to meet the criteria of § 20.1403(b).	RH 3.16.4.3(7)(c) (20.1403(e))	A/L	The analysis will be provided in the FS, and specific plans will be developed and implemented pursuant to the final remedy decision in the CAD/ROD. Like 10 CFR 20.1403(c), 10 CFR 20.1403(e) also specifies requirements for financial assurance to allow independent third party, including a government custodian of the site, to carry the 5-year review. The RFCA Parties agree that the FS need not evaluate a long-term care warranty at this time.
• Surveys - A radiation survey has been performed that demonstrates that the premises are suitable for release in accordance with the criteria for decommissioning in 10 CFR part 20, subpart E including, as appropriate, a radiation survey performed in any separate building or outdoor area that contains residual radiactivity.	RH 3.16.6.2 (70.38(k)(3)(i))	A/L	Requirements for radiation surveys have been met through the data collected and contained in the Sampling and Analysis Plans and the Integrated Monitoring Plan.

ATOMIC ENERGY ACT, 42 U.S.C. 2011, et seq.			
Requirement	**Citation**	**Type**	**Comment**
• Units and Calibration - As appropriate, gamma levels must be reported at radioactive concentrations in pCi/L or per gram; instruments used be identified and instrument calibration/testing be certified.	RH 3.16.6.3 (70.38(j)(2)(i))	A/L	See comment at RH 3.16.6.2 above. Units are specified in the Plans.
• Completion Criteria - determination that (1) radioactive materials have been properly disposed and records of disposal have been forwarded to CDPHE; (2) regulatory requirements for license termination have been met; (3) long-term care warranty established, if required; and (4) institutional controls have been implemented to limit public doses, if required.	RH 3.16.7	A/L	Although license termination is not relevant to Rocky Flats, the substantive criteria in this regulation are relevant and appropriate to determining the end point for decommissioning at Rocky Flats. Subsection (1) is met by implementing the on-site remedial actions required under the final remedial decision in the CAD/ROD (off site disposal is not subject to ARARs); and subsections (2) and (4) are addressed in RH 4.61.2 through .4 (10 CFR 20.1402) (discussed below). Subsection (3), which is grounded in RH 3.9.5.10 (10 CFR 20.1403(c)), is discussed above under RH 3.16.4.6 (10 CFR 20.1403 (b) and (d)). Records of disposal were forwarded to CDPHE in closeout reports.
• New Information if, based on new or previously unknown information, the criteria in RH 4.61 are not met and residual radioactivity remaining at RFETS could result in a significant threat to public health and safety, additional cleanup can be required.	RH 3.16.8	L	This standard is generally consistent with the "imminent and substantial endangerment" standard under CERCLA. Present risk of future harm (e.g., a risk of cancer due to long-term exposure) can be an "imminent" threat.
• Radiation Protection Program – To the extent practicable, procedures and controls used shall be based on sound radiation protection principles to achieve public doses that are ALARA.	RH 4.5.2 (20.1101(b))	A	Planned implementation of Site approved procedures to meet DOE Order 5400.5, "Radiation Protection of the Public and the Environment" and the Site's Integrated Work Control Package will be described for remedial alternatives in the FS, and specific plans will be developed and implemented pursuant to the final remedy decision in the CAD/ROD.

ATOMIC ENERGY ACT, 42 U.S.C. 2011, et seq.			
Requirement	**Citation**	**Type**	**Comment**
• Radiation Protection Program – Imposes constraint on air emissions of radioactive material to the environment to implement ALARA. "Individual member of the public likely to receive the highest dose" will not be expected to receive a TEDE greater than 10 mrem/yr from air emissions. Requires exceedance reporting and corrective action to ensure against recurrence.	RH 4.5.4 (20.1101(d))	A	Will be implemented consistent with 40 CFR 61, Subpart H ARARs. The state interprets "individual member of the public" to include a USFWS worker.
• Dose Limits for Individual Members of Public – Surveys of radiation levels in unrestricted areas and radioactive materials in effluents released to unrestricted areas shall be made to demonstrate compliance with the dose limits for individual members of the public.	RH 4.15.1 (20.1302(a))	A/L	Surveys will be conducted pursuant to site approved procedures to meet DOE Order 5400.5, "Radiation Protection of the Public and the Environment". Will be implemented consistent with 40 CFR 61, Subpart H ARARs for air emissions. Surface water quality will be monitored and assessed as described in the Surface Water Remedial Action Objectives.
• Dose Limits for Individual Members of Public – Provides the means to demonstrate compliance with RH 4.14(10 CFR 20.1301(a)): by measurement or calculation that dose does not exceed the annual limit; or by demonstrating that annual average radioactive material concentration released in gaseous and liquid effluents at boundary of the unrestricted area does not exceed Appendix B, Table 2, "Effluent Concentrations," and, if an individual were continually present in an unrestricted area, the dose from external sources would not exceed 0.002 rem (0.02mSv) in an hour and 0.05 rem (0.5 mSv) in a year..	RH 4.15.2.1 and .2 (20.1302(b))	L	Site approved procedures to meet DOE Order 5400.5, "Radiation Protection of the Public and the Environment" are based on the same dose rate limits. Will be implemented consistent with 40 CFR 61, Subpart H ARARs for air emissions. Surface water quality will be monitored and assessed as described in the Surface Water Remedial Action Objectives.
• Surveys - shall be made as necessary to evaluate radiation levels, concentrations of radioactive material and potential radiological hazards that could be present.	RH 4.17.1 (20.1501(a))	A/L	Requirements for radiation surveys will be met through implementation of the Sampling and Analysis Plans and the Integrated Monitoring Plan for Environmental Restoration.
• Calibration Frequency – Instruments and equipment used for qualitative radiation measurements must be calibrated periodically for the radiation measured. • Calibration shall be at intervals not to exceed 12 months, unless otherwise noted by regulation.	20.1501(b) RH 4.17.2	A	Requirements for equipment calibration will be met through implementation of the Sampling and Analysis Plans and the Integrated Monitoring Plan.

A - Action-Specific ARAR; C - Chemical-Specific ARAR; L - Location-Specific ARAR; TBC - To Be Considered

ATOMIC ENERGY ACT, 42 U.S.C. 2011, et seq.			
Requirement	**Citation**	**Type**	**Comment**
• Waste Disposal – Shall dispose only by transfer to authorized recipient, by decay in storage and by release in effluents within the limits of subpart RH 4.14 (20.1301).	RH 4.33 (20.2001(a)(3))	A/L	Transfer to authorized recipient is not ARAR because transfer is not an on-site remedial action. Decay in storage is not a feasible alternative. Remedial alternative components that involve off site release in effluents (if any) will be evaluated in the FS.
• Radiological Criteria for Decommissioning (applicable to certain facilities licensed to use radioactive materials) – Must calculate maximum TEDE to "average member of the critical group" within the first 1000 years after decommissioning.	RH 4.61.1.2 (20.1401(d))	A/L	Although license termination is not applicable to Rocky Flats, the substantive criteria in this regulation are relevant and appropriate standards for the RFETS final remedy. See Results of the Interagency Review of Radionuclide Soil Action Levels, September 30, 2002.
• Criteria for Unrestricted Use – Residual radioactivity above background has been reduced to levels that are ALARA and results in TEDE to average member of the critical group that does not exceed 25 mrem/yr., including groundwater sources of drinking water. Determination of dose and residual activity levels which are ALARA, must take into account consideration of any detriments expected to potentially result from decontamination and waste disposal.	RH 4.61.1.3 RH 4.61.2 (20.1402)	A/L	The analysis will be provided in the FS, and specific plans will be developed and implemented pursuant to the final remedy decision in the CAD/ROD. Locations of past burial of certain ash and debris contaminated with low levels of uranium and plutonium will be evaluated under this rule for release under unrestricted or restricted release criteria, as appropriate, pursuant to this ARAR. The RFCA Parties have determined that 6 CCR 1007-1, Part 14 Licensing Requirements for Land Disposal of Low-level Radioactive Waste need not be identified as an ARAR because the radiological criteria for decommissioning was intended to cover these types of past burial practices.
• Criteria for Restricted Use – Provisions made for durable, legally enforceable institutional controls that provide reasonable assurance that TEDE to average member of the critical group will not exceed 25 mrem/yr; AND If Institutional Controls were no longer in effect, TEDE above background is ALARA and would not exceed either: 100 mrem/yr OR 500 mrem/yr, if	RH 4.61.3.2 and .3 (20.1403(b) and (e))	A/L	The analysis will be provided in the FS, and specific plans will be developed and implemented pursuant to the final remedy decision in the CAD/ROD. See comment in RH 4.61.2 above.

ATOMIC ENERGY ACT, 42 U.S.C. 2011, et seq.			
Requirement	**Citation**	**Type**	**Comment**
demonstrated that further reductions are not technically achievable, would be prohibitively expensive or would result in net public or environmental harm.			
• Alternate (Decommissioning) Criteria – Alternate criteria may be used if: Assurance is provided that public health and safety would continue to be protected; It is unlikely that TEDE would be more than 100 mrem/yr.; Restrictions are employed for on site use that minimize exposures at the site; and Doses are reduced to ALARA levels.	RH 4.61.4.1.1 through .3 (20.1404(a))	A/L	The analysis will be provided in the FS, and specific plans will be developed and implemented pursuant to the final remedy decision in the CAD/ROD.

SUBTITLE C: HAZARDOUS WASTE MANAGEMENT [Colorado Hazardous Waste Act (CRS § § 25-15-101 to -217)] SOLID WASTE DISPOSAL ACT (aka: Resource Conservation and Recovery Act) [42 USC § 6901 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
GENERAL	6 CCR 1007-3, Part 261, Subpart A (40 CFR 261, Subpart A)		
• Exclusions	.4(a)(2)	A	Industrial wastewater discharges that are point source discharges subject to regulation under Section 402 of the Clean Water Act are not considered solid wastes.
IDENTIFICATION AND LISTING OF HAZARDOUS WASTES	6 CCR 1007-3, 261 [40 CFR 261]	A	All remediation waste will be characterized to determine a hazardous waste classification.
GENERATOR STANDARDS	6 CCR 1007-3 Part 262 (40 CFR Part 262)		
• Hazardous waste determinations	.11	A/C	Persons who generate solid wastes are required to determine if the wastes are hazardous according to 6 CCR 1007-3 Parts 261, 267, 279 [40 CFR Parts 261, 266, and 279].
• Hazardous waste accumulation areas	.34	A	Persons who accumulate hazardous waste in containers or tanks must manage the waste in a manner that protects human health and the environment.
GENERAL	6 CCR 1007-3, Part 265, Subpart A (40 CFR 265, Subpart A)		
• Purpose, Scope and Applicability	.1(c)(10)	A	The requirements of Part 265 do not apply to elementary neutralization units or wastewater treatment units.

SUBTITLE C: HAZARDOUS WASTE MANAGEMENT [Colorado Hazardous Waste Act (CRS § § 25-15-101 to -217)] SOLID WASTE DISPOSAL ACT (aka: Resource Conservation and Recovery Act) [42 USC § 6901 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
GENERAL FACILITY STANDARDS	6 CCR 1007-3 Part 265, Subpart B [40 CFR Part 265, Subpart B]		
• Security	.14	A/L	The owner/operator of a facility must prevent unauthorized access.
• General Inspection Requirements	.15	A/L	The owner/operator of a facility must inspect for malfunctions, deteriorations, and releases, and must remedy deficiencies.
• Personnel Training Requirements	.16	A/C	Personnel must be trained.
• Requirements for ignitable, reactive or incompatible wastes	.17	A	
PREPAREDNESS AND PREVENTION	6 CCR 1007-3 Part 265, Subpart C [40 CFR 265, Subpart C]		The analysis will be provided in the FS, and ultimately in the CAD/ROD for the final action.
• Required Equipment	.32	A/C	Facilities must be equipped with specified equipment to mitigate incidents, should they occur.
• Testing and Maintenance of Equipment	.33	A/C	Equipment must be maintained.
• Access to Communications or Alarm System	.34	A/L	Employees must have access to emergency communications when managing hazardous waste.
• Arrangement with Local Authorities	.37	A/L	The owner/operator must make arrangements with specified local emergency personnel.
CONTINGENCY PLAN AND EMERGENCY PROCEDURES	6 CCR 1007-3 Part 265, Subpart D [40 CFR Part 265, Subpart D]		The analysis will be provided in the FS, and ultimately in the CAD/ROD for the final action.
• Purpose and Implementation	.51	A/C	Emergencies such as fire, explosion, or release of hazardous waste must be mitigated immediately.
• Emergency Coordinator	.55	A	A designated employee is responsible for coordinating emergency response actions.
• Emergency Procedures	.56	A	The emergency procedures of the RFETS Emergency Response Plan will be followed.

SUBTITLE C: HAZARDOUS WASTE MANAGEMENT [Colorado Hazardous Waste Act (CRS § § 25-15-101 to -217)] SOLID WASTE DISPOSAL ACT (aka: Resource Conservation and Recovery Act) [42 USC § 6901 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
GROUNDWATER PROTECTION [RELEASES FROM SOLID WASTE MANAGEMENT UNITS (SWMUs)]	6 CCR 1007-3 Part 264, Subpart F [40 CFR Part 264, Subpart F]		
• Applicability – requires compliance with corrective action requirements for SWMUs, and for "regulated units" that received hazardous waste after July 26, 1982. SWMUs are subject to 264.101. Regulated units are subject to monitoring and response programs and ground water protection standards for hazardous constituents that exceed specified standards at the point of compliance, 264.91 - 264.100.	264.90	A/C	The only regulated units are the Solar Evaporation Ponds, IHSS 101 and the Present Landfill, IHSS 114, which are being closed under Part 265 (Interim Status) requirements. The Solar Evaporation Ponds, IHSS 101, was closed under 6 CCR 1007-3, section 265.110(d) and is not subject to post-closure monitoring because there are no hazardous constituents that exceed specified standards at a groundwater point of compliance. The Present Landfill, IHSS 114, was closed under 6 CCR 1007-3, section 265.111 and is subject to post closure monitoring, response and ground water protection standards for hazardous constituents that exceed specified standards at the point of compliance under Part 264. A groundwater monitoring system was implemented under the Present Landfill IM/IRA and the Integrated Monitoring Plan (IMP) pursuant to 6 CCR 1007-3, section 264.93. A total of six (three upgradient and three downgradient) RCRA groundwater monitoring wells have been established. The constituents that will be monitored are VOCs and metals. The purpose of the monitoring is to evaluate upgradient versus downgradient groundwater quality at the Present Landfill. These specific monitoring requirements and maintenance plans will be documented as part of the final remedy decision in the CAD/ROD and other enforceable document.

SUBTITLE C: HAZARDOUS WASTE MANAGEMENT [Colorado Hazardous Waste Act (CRS § § 25-15-101 to -217)] SOLID WASTE DISPOSAL ACT (aka: Resource Conservation and Recovery Act) [42 USC § 6901 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
• Concentration Limits – Alternate concentration limits may be approved that do not pose a substantial present or potential hazard to human health and the environment.	264.94 (b) (c)	C	While IHSS 114 will be subject to interim status post closure monitoring, and SWMUs are not subject to this requirement, this section provides criteria that may be relevant and appropriate in establishing groundwater concentrations for post closure groundwater monitoring. ACLs will be evaluated if necessary in the FS. Specific plans will be developed and implemented pursuant to the final remedy decision in the CAD/ROD.
• Corrective action for solid waste management units	264.101	A/L	Each IHSS has been evaluated, and an accelerated action taken as necessary, in compliance with RFCA. RFCA paragraph 11 states that compliance with the requirements of this Agreement will be deemed to achieve compliance with (c) the corrective action requirements of CHWA, including 6 CCR 1007-3 sections 264.101 and 265.5; and (d) the closure requirements of CHWA for those hazardous waste management units identified in RFCA Attachment 3. It is anticipated that the completion of the accelerated actions will complete the corrective action for soil at each IHSS (formerly SWMU). In recognition that groundwater contamination could be caused by releases from multiple hazardous waste management units and/or from sources other than, but around hazardous waste management units, corrective action for groundwater has been addressed on a site-wide basis. Two groundwater plume treatment systems (East Trenches Plume Treatment System and Mound Plume Treatment System) were installed as accelerated actions. These systems, combined

SUBTITLE C: HAZARDOUS WASTE MANAGEMENT [Colorado Hazardous Waste Act (CRS § § 25-15-101 to -217)] SOLID WASTE DISPOSAL ACT (aka: Resource Conservation and Recovery Act) [42 USC § 6901 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
			with the source removal accelerated actions, are anticipated to be the corrective action for groundwater. The operation and maintenance of the groundwater plume treatment systems will continue and be identified in the FS. Notwithstanding the above, the RFCA Parties recognize that the final remedial/corrective action decisions may require some additional work as specified in the CAD/ROD to ensure an adequate remedy.
GROUND WATER MONITORING	6 CCR 1007-3 Part 265, Subpart F [40 CFR Part 265, Subpart F]		
• Applicability – Monitoring applies to landfills, surface impoundments and land treatment facilities ("regulated units"). Program must be capable of determining facility's impacts on ground water in uppermost aquifer underlying the facility. Alternate ground water monitoring system (265.90(d)) or alternative requirements (265.90(f)) may be approved for any of the requirements specified in Subpart F.	265.90	A/L/ C	Alternate ground water monitoring system may be approved if it is known that monitoring indicator parameters are already exceeded at required monitoring points. Alternative requirements that are protective of human health and the environment may be approved if a regulated unit is situated among SWMUs or areas of concern, a release has occurred and the regulated unit and SWMU or area of concern are likely to have contributed to the release. A groundwater monitoring system was implemented under the Original Landfill, IHSS 115, IM/IRA. A total of four (one upgradient and three downgradient) RCRA groundwater monitoring wells have been established. The constituents that will be monitored are VOCs, SVOCs, pesticides, and metals (including uranium). The purpose of the monitoring is to evaluate upgradient versus downgradient groundwater quality at the Original Landfill. These specific monitoring requirements and maintenance

SUBTITLE C: HAZARDOUS WASTE MANAGEMENT [Colorado Hazardous Waste Act (CRS § § 25-15-101 to -217)] SOLID WASTE DISPOSAL ACT (aka: Resource Conservation and Recovery Act) [42 USC § 6901 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
			plans will be documented as part of the final remedy decision in the CAD/ROD.
• Ground water Monitoring System – System must have at least one upgradient well to monitor water representative of background not affected by the facility. It must have at least three downgradient wells at the limit of the waste management area to immediately detect hazardous waste or constituents migrating from the waste management area to the upper most aquifer. Alternate downgradient wells may be approved and the limit of the waste management area may encompass several waste management components.	265.91	A/L/ C	The rationale for monitoring well locations for the Original Landfill is described in the Original Landfill IM/IRA. Selection of well locations will be documented as part of the final remedy decision in the CAD/ROD.
• Sampling and Analysis – A plan for obtaining and analyzing samples for concentrations of specified ground water quality and contamination parameters at least annually and semi-annually respectively. This is for the periodic indicator evaluation of ground water.	265.92	A/C	The rationale for monitoring well sampling and analysis parameters is described in the Original Landfill IM/IRA. The sampling and analysis plan will be documented as part of the final remedy decision in the CAD/ROD.
• Preparation, Evaluation and Response – A ground water quality assessment outline must describe a comprehensive ground water monitoring program capable of determining if hazardous waste and constituents have entered the ground water and the extent, migration and concentration of contamination. If evaluation is triggered by the periodic indicator evaluations, sampling and analysis frequency under this section will be at least quarterly. Annual evaluation of ground water elevations must be made to determine if well location requirements are satisfied.	265.93	A/C	The outline for ground water quality assessment is described in the Original Landfill IM/IRA. The evaluation plan will be documented as part of the final remedy decision in the CAD/ROD.
• Recordkeeping and Reporting	265.94	A	Recordkeeping and reporting protocols will be implemented pursuant to the final remedy decision in the CAD/ROD.
CLOSURE AND POST CLOSURE	6 CCR 1007-3 Part 265, Subpart G [40 CFR Part 265, Subpart G]		This ARAR applies to the Present Landfill, IHSS 114 and the Original Landfill, IHSS 115.
• Applicability – Hazardous waste management facilities must meet closure requirements and, relevant to RFETS, hazardous waste disposal facilities and tank systems closed as landfills are subject to post-closure care requirements. Alternative requirements (265.110(d)) may be approved for any of the requirements specified in Subpart G.	265.110	A	Alternate closure requirements may be approved if a "regulated unit" is situated among SWMUs or areas of concern, a release has occurred and the regulated unit and SWMU or areas of concern are likely to have contributed to the release. Closure must be

SUBTITLE C: HAZARDOUS WASTE MANAGEMENT [Colorado Hazardous Waste Act (CRS § § 25-15-101 to -217)] SOLID WASTE DISPOSAL ACT (aka: Resource Conservation and Recovery Act) [42 USC § 6901 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
			protective of human health and the environment.
• Closure Performance Standard	265.111		If alternate closure requirements are approved per 265.110(d), closure must meet 265.111(a) and (b). Otherwise, 265.111(c) must also be met.
• Disposal or Decontamination of Equipment, Structures, or Soils	265.114	A	
• Survey Plat - A plat prepared by a professional land surveyor must be prepared showing location of waste in relation to survey benchmarks.	265.116	L	Survey plat will be prepared and provided to third parties and retained by DOE as required by the final remedy decision.
• Post-Closure Care and Use of Property – Specified 30-year period for identified post closure care monitoring, maintenance and security requirements. Period may be shortened or extended, based on protection of human health and the environment.	265.117	A	The post closure care period and any necessary restrictions on land use or disturbance will be analyzed in the FS. The plan for post closure care and use will be developed and implemented as required by the final remedy decision.
• Post-Closure Plan – For each hazardous waste management unit subject to the requirements of this section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of the activities.	265.118	A	
• Post-closure notices – Plat should be filed with local authority and property deed (if any) annotated and recorded to include plat.	265.119	A	Survey plat will be prepared and provided to third parties and retained by DOE as required by the final remedy decision.
• Certification of completion of post-closure care	265.120	A	Certification that the post-closure care period was performed in accordance with the approved post-closure plan will be submitted no later than 60 days after the completion of the established post-closure care period.
• Post-closure requirements for facilities that obtain enforceable documents in lieu of post-closure permits	265.121	A	

SUBTITLE C: HAZARDOUS WASTE MANAGEMENT [Colorado Hazardous Waste Act (CRS § § 25-15-101 to -217)] SOLID WASTE DISPOSAL ACT (aka: Resource Conservation and Recovery Act) [42 USC § 6901 et. seq.]			
Requirement	**Citation**	**Type**	**Comment**
LANDFILLS	6 CCR 1007-3 Part 265, Subpart N [40 CFR Part 265, Subpart N]		
• Surveying and Recordkeeping	265.309		
• Closure and Post Closure Care – Specifications for final cover construction and design, and the maintenance of monitoring and other components and benchmarks.	265.310(b)(1), (3), (4), and (5)	A/L	The Present Landfill, IHSS 114, and the Original Landfill, IHSS 115, are the only units that will have a cover that must attain this ARAR.

Requirement	Citation	Type	Comment
PCB STORAGE AND DISPOSAL	40 CFR 761 Subpart D		
• PCB Bulk Product Waste	761.62(c)	A/C	General PCB Disposal Requirements . Concrete painted with PCB-based paints may be left in place in the basements of demolished building, and concrete rubble containing PCB-based paints may be stored onsite and used as backfill, pursuant to the letter from Kerrigan Clough to Joe Legare, Approval of Risk-Based Approach for Polychlorinated Biphenyls (PCBs)- Based Painted Concrete, November 2001.
ENVIRONMENTAL COVENANTS	C.R.S. 25-15-317 et seq		
• Nature of Environmental covenants	25-15-318		The purpose of the covenant is to provide an effective and enforceable means of ensuring the conduct of any required maintenance, monitoring, or operation, and of restricting future uses of the land, including placing restrictions on drilling for or pumping ground water for as long as any residual contamination remains hazardous.
• Contents	25-15-319		The FS will evaluate alternatives that will involve required maintenance, monitoring, or operation, and of restricting future uses of the land. The evaluation will include the assumption that enforceable means of ensuring the conduct of these actions will be in place as specified in the final CAD/ROD.
• When Required	25-15-320		An environmental covenant shall be required where residual contamination remains at levels that have been determined to be safe for one or more specific uses, but not all uses; or an engineered feature or structure is incorporated that requires monitoring, maintenance, or operation or that will not function as intended if disturbed.
• Creation, modification and termination of an environmental covenant.	25-15-321		

A - Action-Specific ARAR; C - Chemical-Specific ARAR; L - Location-Specific ARAR; TBC - To Be Considered

ATTACHMENT 12

RFCA DOCUMENTS INDEX

RFCA Documents Index

1. Site Quality Assurance Program (QAP), Rev. 1, Kaiser-Hill Company L.L.C., effective February 2, 1996; as updated.

2. U.S. Department of Energy, Historical Release Report for the Rocky Flats Plant, Volumes I and II, June 1992; as updated.

3. Existing ER Standard Operating Procedures.

4. U.S. Department of Energy, Rocky Flats Site-wide Integrated Public Involvement Plan, U.S. Department of Energy, March 1998; as updated.

5. Treatability Study Work plans listed in the Administrative Record.

6. Site Health and Safety Program Manual, EG&G Rocky Flats, Inc., (Adopted by Kaiser-Hill Company, L.L.C. in July 1995) September 30, 1995 (Or most current version).

7. U.S. Department of Energy, Final Plan for Prevention of Contaminant Dispersion, February 1992.

8. U.S. Department of Energy, Background Geochemical Characterization Report, Rocky Flats Plant, September 30, 1993.

9. Final Treatability Studies Plan, Volumes I and II, August 1991. Approved by EPA on October 22, 1991.

10. Final resolutions of previous disputes that are relevant to implementation of RFCA. The Administrative Record shall be reviewed for such resolutions, and this list will be updated accordingly.

11. U.S. Department of Energy, Rocky Flats Environmental Technology Site, Integrated Monitoring Plan FY98/FY99, October 1998; as updated.

12. U.S. Department of Energy, Decommissioning Program Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, October 8, 1998. Approved by CDPHE on November 4, 1998. Approved by EPA on November 12, 1998; as updated.

13. U.S. Department of Energy, Final Surface Water Remedial Action Objectives Technical Memorandum, August 20, 2002. Approved by CDPHE and EPA on September 17, 2002.

14. U.S. Department of Energy, Final Work Plan for the Development of the Remedial Investigation and Feasibility Study Report for the Rocky Flats Technology Site, March 11, 2002. Approved by CDPHE on March 19, 2002 and approved by EPA on March 25, 2002.

15. U.S. Department of Energy, Final 1997 Integrated Water Management Plan for the Rocky Flats Environmental Technology Site, A Working Group, February 1998 (RF/RMRS-97-078.UN).

16. U.S. Department of Energy, Rocky Flats Environmental Technology Site Natural Resource Management Policy, Rev. 0 September 30, 1998.

CAD/RODs

1. U.S. Department of Energy, Corrective Action Decision/Record of Decision, Operable Unit 1, Rocky Flats Environmental Technology Site, Golden, Colorado, February 1997. Approved March 1997.

2. U.S. Department of Energy, Final Major Modification to OU 1 881 Hillside Area CAD/ROD dated January 5, 2001. Approved February 2001.

3. U.S. Department of Energy, Corrective Action Decision/Record of Decision, Operable Unit 3, Rocky Flats Environmental Technology Site, Golden, Colorado, April 1997. Approved June 1997.

4. U.S. Department of Energy, Corrective Action Decision/Record of Decision, Operable Unit 11: West Spray Field, Rocky Flats Environmental Technology Site, Golden, Colorado, September 1995. Approved October 1995.

5. U.S. Department of Energy, Corrective Action Decision/Record of Decision, Operable Unit 15: Inside Building Closures, Rocky Flats Environmental Technology Site, Golden, Colorado, September 1995. Approved October 1995.

6. U.S. Department of Energy, Corrective Action Decision/Record of Decision, Operable Unit 16: Low Priorities Sites, Rocky Flats Environmental Technology Site, Golden, Colorado, August 1994. Approved October 1994.

Decontamination and Decommissioning (D&D)

1. U.S. Department of Energy, Building 123, Proposed Action Memorandum, Rocky Flats Environmental Technology Site, Golden, Colorado, August 1997. Approved by CDPHE on August 25, 1997.

2. U.S. Department of Energy, Final Close-out Report for Building 123 Decommissioning Project as Required by RFCA, Revision 0, September 1998. Revision 1, February 1999. Approved by CDPHE on March 10, 2000.

3. U.S. Department of Energy, B371/374 Closure Project Decommissioning Operations Plan (DOP), Rocky Flats Environmental Technology Site, Golden, Colorado, March 26, 2001. Approved by CDPHE on March 29, 2001.

4. U.S. Department of Energy, B707 Closure Project Decommissioning Operations Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, December 21, 2000. Approved by CDPHE on January 18, 2001.

5. U.S. Department of Energy, Building 771/774 Closure Project Decommissioning Operations Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, December 1998. Approved by CDPHE on January 11, 1999.

6. U.S. Department of Energy, Building 776/777 Closure Project Decommissioning Operations Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, November 3, 1999. Approved by CDPHE on November 5, 1999. The Demolition Plan for B776/777, a major modification to the DOP, was approved by CDPHE on July 1, 2003.

7. U.S. Department of Energy, Decommissioning Operations Plan for the 779 Cluster Interim Measure/Interim Remedial Action, Rocky Flats Environmental Technology Site, Golden, Colorado, February 1998. Approved by CDPHE on February 6, 1998.

8. U.S. Department of Energy, Decommissioning Closeout Report for the Building 779 Closure Project, April 1, 2000. Approved by CDPHE on January 26, 2001.

9. U.S. Department of Energy, Building 886 Cluster Closure Project Interim Measure/Interim Remedial Action, Rocky Flats Environmental Technology Site, Golden, Colorado, July 30, 1998. Approved by CDPHE on August 3, 1998.

10. U.S. Department of Energy, Closeout Report for the Building 980 Cluster, Revision 0 October 9, 1997.

11. U.S. Department of Energy, Sampling and Analysis Plan for the Decontamination & Decommissioning Monitoring of Buildings 991, 559, and 881. Approved by CDPHE on June 21, 2001.

12. U.S. Department of Energy, the Decontamination and Decommissioning (D&D) Characterization Protocol, November 20, 1998. Revision 3, April 23, 2001 approved by CDPHE on April 10, 2001.

    Note: Appendix D of this report is the Reconnaissance Level Characterization Plan, Revision 0, April 23, 2001. Approved by CDPHE on April 10, 2001.

13. U.S. Department of Energy, the Site-Wide Pre-Demolition Survey Plan, Revision 0, March 23, 2001. Approved by CDPHE on April 10, 2001.

14. U.S. Department of Energy, Proposed Action Memorandum (PAM) for Decommissioning Building Cluster 980 (B980), Revision 0, Rocky Flats Environmental Technology Site, Golden, Colorado, August 15, 1997. Approved by CDPHE on August 25, 1997.

6. U.S. Department of Energy, Termination of the Surface Water Interim Remedial Action Plan Environmental Assessment and Decision Document South Walnut Creek Basin dated October 1994. Approved July 28, 1998.

7. U.S. Department of Energy, Major Modification to the Interim Measures/Interim Remedial Action Plan and Decision Document, 881 Hillside Area Operable Unit No. 1, dated January 1990. Conditionally approved by EPA on August 27, 1997.

8. U.S. Department of Energy, Final Mound Site Plume Decision Document, Major Modification to the Final Surface Water Interim Measure/Interim Remedial Action Plan/Environmental Assessment and Decision Document for South Walnut Creek March 1991, Revised October 1994, Rocky Flats Environmental Technology Site, Golden, Colorado, September 30, 1997. Approved by EPA in September 1997.

9. U.S. Department of Energy, Interim Measure/Interim Remedial Action Decision Document, National Conversion Pilot Project, Stage II, Rocky Flats Field Office, Golden, Colorado, March 30, 1995.

   NOTE: Although this IM/IRA is regulated under RFCA, the IM/IRA provides that the activities conducted under the IM/IRA shall not become regulatory milestones. Further, the National Conversion Pilot Project work is funded in accordance with a Cooperative Assistance Agreement, and not though normal RFETS budget planning. The work being done under this IM/IRA ceased upon expiration of the funds provided under the Cooperative Assistance Agreement for Stage II. The IM/IRA work was not included in the Integrated Sitewide Baseline.

10. U.S. Department of Energy, Corrective Action Management Unit Interim Measure/Interim Remedial Action Decision Document and Application Support Document for Containerized Storage at the Rocky Flats Environmental Technology Site, Golden, Colorado, Final, August 1997. Approved by CDPHE on August 28, 1997.

11. U.S. Department of Energy, Corrective Action Management Unit Interim Measure/Interim Remedial Action Decision Document and Application Support Document for Bulk Storage at the Rocky Flats Environmental Technology Site, Golden, Colorado, Final, August 1997. Approved by CDPHE on August 28, 1997.

12. U.S. Department of Energy, Interim Measure/Interim Remedial Action for the Solar Ponds Plume Remediation Project, Rocky Flats Environmental Site, Golden, Colorado, June 11, 1999. Approved by CDPHE on June 11, 1999.

13. U.S. Department of Energy, Interim Measure/Interim Remedial Action and Resource Conservation and Recovery Act Closure of the Present Landfill, Rocky Flats Environmental Site, Golden, Colorado, August 2004. Approved by CDPHE and EPA on August 23, 2004.

14. U.S. Department of Energy, Interim Measure/Interim Remedial Action for IHSS Group 900-11, 903 Pad Lip Area, Rocky Flats Environmental Site, Golden, Colorado, August 25, 2004. Approved by EPA on September 20, 2004.

15. U.S. Department of Energy, Interim Measure/Interim Remedial Action for the Original Landfill (including IHSS Group SW-2 IHSS 115, Original Landfill and IHSS 196, Filter Backwash Pond), Rocky Flats Environmental Site, Golden, Colorado, March 10, 2005. Approved by CDPHE and EPA on April 28, 2005.

16. U.S. Department of Energy, Interim Measure/Interim Remedial Action for Groundwater at the Rocky Flats Environmental Site, Golden, Colorado, June 21, 2005. Approved by CDPHE and EPA on July xx, 2005.

ER PAMs

1. U.S. Department of Energy, Proposed Action Memorandum Hotspot Removal Rocky Flats Plant Operable Unit 1, Rocky Flats Plant, Golden, Colorado, September 1994.

2. U.S. Department of Energy, Final Proposed Action Memorandum Remediation of Polychlorinated Biphenyls, Rocky Flats Environmental Technology Site, Golden, Colorado, May 1995. Approved by CDPHE on June 21, 1995.

3. U.S. Department of Energy, Proposed Action Memorandum Passive Seep Collection and Treatment System for Operable Unit 7, December 1994. Approved by CDPHE and EPA on December 8, 1994.

4. U.S. Department of Energy, Modified Proposed Action Memorandum Passive Seep Collection and Treatment System for Operable Unit 7, Rocky Flats Environmental Technology Site, Golden, Colorado, June 1995. Approved by CDPHE on June 26, 1995.

5. U.S. Department of Energy, Modified Proposed Action Memorandum Passive Seep Collection and Treatment System for Operable Unit 7, July 6, 1998. Approved by EPA on July 24, 1998.

6. U.S. Department of Energy, Final Proposed Action Memorandum for the Remediation of Individual Hazardous Substance Site 109, Ryan's Pit, Rocky Flats Environmental Technology Site, Golden, Colorado, August 24, 1995. Approved by CDPHE on August 9, 1995.

7. U.S. Department of Energy, Final Proposed Action Memorandum for the Remediation and Draft Modification of Colorado Hazardous Waste Corrective Action Section of the Operating Permit for Rocky Flats Environmental Technology Site, Golden, Colorado, October 1995. (Associated with storage and treatment of contaminated soil from expedited cleanup activities at IHSS 109, Ryan's Pit, OU 2). Revision 3, dated August 30, 2001.

8. U.S. Department of Energy, Proposed Action Memorandum Remediation for the Contaminant Stabilization of Underground Storage Tanks, Rocky Flats Environmental Technology Site, Golden, Colorado, April 6, 1996. Approved by CDPHE and EPA on May 15, 1996.

9. U.S. Department of Energy, Proposed Action Memorandum for the Source Removal at Trenches T-3 and T-4, IHSSs 110 and 111.1, Rocky Flats Environmental Technology Site, Golden, Colorado, August 24, 1995 and revised April 9, 1996. Approved by EPA on April 30, 1996.

10. U.S. Department of Energy, Final Proposed Action Memorandum for the Source Removal at the Mound Site, IHSS 113, Revision 0, Rocky Flats Environmental Technology Site, Golden, Colorado, February 3, 1997. Approved by EPA in February 1997.

11. U.S. Department of Energy, Final Proposed Action Memorandum for the Source Removal at Trench 1, IHSS 108, Rocky Flats Environmental Technology Site, Golden, Colorado, July 1997. Approved by EPA on August 27, 1997.

12. U.S. Department of Energy, Final Proposed Action Memorandum for the East Trenches Plume, Rocky Flats Environmental Technology Site, Golden, Colorado, February 4, 1999. Approved by EPA in February 1999.

13. U.S. Department of Energy, Proposed Action Memorandum for IHSS 101 and RCRA Closure of the Solar Evaporation Ponds, Rocky Flats Environmental Technology Site, Golden, Colorado, May 2003. Approved by CDPHE on May 22, 2003.

ER RSOPs

1. U.S. Department of Energy, RSOP for Soil and Asphalt Management, Rocky Flats Environmental Technology Site, Golden, Colorado, August 3, 2001. Approved by EPA and CDPHE on August 28, 2001.

2. U.S. Department of Energy, Environmental Restoration RFCA Standard Operating Protocol (ER RSOP) for Routine Soil Remediation, Rocky Flats Environmental Technology Site, January 2002. Approved by CDPHE on January 11, 2002. Approved by EPA on March 15, 2002.

ER Sampling and Analysis Plans (SAPs)

~~1.~~U.S. Department of Energy, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June 2001. Approved by CDPHE on June 18, 2001.

~~2.~~U.S. Department of Energy, Buffer Zone Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June 2002. Approved by EPA on March 13, 2002.

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